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ABSTRACT

This paper examined the connection between learners' metacognitive processes and their construction of personal meanings. Some concepts of the metacognitive processes such as strategy selection, planning, progress monitoring, and evaluation are reviewed. Noting that in spite of a lack of research literature in direct relation to the specific area discussed, references in the research literature indicate that the two concepts of personal meaning and metacognitive processes seem to interact with each other in varying degrees and appear to be interrelated. This literature review revealed a number of important implications for education. One important area is the need to create an environment or to provide necessary orientation for learners to realize the need and their responsibility for whatever they learn. Goals of learning must be extended to include growth or change in student feelings, attitudes, beliefs, understanding values, hopes and aspirations, and these goals must be made known to teachers, students, and parents. Six approaches to teaching metacognitive strategies to learners suggested are: (1) discovery learning; (2) observational learning; (3) guided participation; (4) strategy instruction; (5) direct explanation; and (6) dyadic instruction. The close relations of the affective domain, learning, and personal meanings offer many opportunities for future research. Contains 92 references. (WP)

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"Personal Meaning in Learning: Perspectives that Influence the Discovery of Personal Meaning"

A Symposium

Personal Meaning as a Metacognitive Process

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Personal Meaning as a Metacognitive Process

Gorrell (1992), in his paper on The Discovery of Personal Meaning: Affective Factors in Learning summarizes some of the many issues related to active, volitional learners and attempts to integrate them in terms of the discovery of personal meaning. His thesis is that "the discovery of personal meaning in learning is vital part of the learning process" (p. 14). He says that "an important implication for educational research is to begin the task of organizing affective factors and cognitive learning into a coherent whole. One way to accomplish that is to consider the personal meaning of knowledge they have acquired or which they are in the process of acquiring" (p. 3). My attempt in this paper is to examine the connection between learners' metacognitive processes and their construction of personal meanings.

Recently, research in learning theory provided evidence that perceptual, humanistic experiential psychologies have provided new perceptual views about concepts of learning. According to Combs (1989) "the perceptual view of learning has sometimes been called 'experiential learning' because it concentrates attention upon the experience of the learner" (p. 80). The learning is essentially a process of discovering personal meaning, a deeply personal experience, being motivated by the learner's basic need, critically affected by the learner's concept of self, being helped or hindered greatly by the learner's experience of

challenge or threat, deeply influenced by the learner's experience of identification or belonging and critically influenced by feedback or knowledge of results (Combs, 1989).

Combs (1989) identifies learning as a "deeply personal, affective, as well as a cognitive experience" (p. 85). According to Piaget and Inhelder (1969), Combs explains, every learning outcome - behavior- is accompanied by some measure of emotion. In perceptual theory, emotion is a concomitant or artifact of behavior, while causes lie in the personal meanings which exist for the behavior at the moment of action (Combs, 1989).

Combs (1989) explains that understanding behavior as a product of perception or personal meaning, can improve attempts to change behavior by manipulating stimuli. "Understanding that it is the meaning of the stimulus to the subject and the meaning of consequences which determines responses can help the pure behaviorist to refine her [or his] techniques and achieve control of behavior with greater success. At the same time a psychology of personal meaning makes it possible for us to deal with the internal life of persons- experiences like feelings, attitudes, beliefs, hopes, and aspirations- not open to exploration in purely behavioral terms" (Combs 1989, p. 36).

Children do not achieve really affective or humanistic learning, just by having behavioral objectives or following performance based criteria for instructional practices. These objectives or criteria "do not help us in dealing with the things that make us truly human- the question of human beliefs,

attitudes, feelings, understandings, and concerns- the things we call 'affective'. Nor do they deal with problems of self-actualization, citizenship, responsibility, caring and many other such humanistic goals of educators" (Combs, 1973, p. 39). Combs (1973) says that learning should not be a mechanical process. He says it is a human problem always consisting of two parts; first, gaining of information or some new experience. Second, discovering of the meaning of the information provided to him. Information will affect a person's behavior and learning becomes truly meaningful to him only in the degree to which he has discovered it's personal meaning. Combs (1973) points out that if learning is to be humanized, the whole problem of learning must be looked at in a totally different perspective. Combs says that the first thing we must do to humanize learning is to believe that humanizing learning is important. His view is that in order to humanize the process of learning, it is necessary to do a search for the things that destroy effective learning and remove them completely from the scene. Students need to be made partners, decision makers, and they must be allowed to develop sole responsibility for their own learning.

It is through metacognitive processes of learning that learners become regulators of their own learning and they take the responsibility for all their learning. Metacognitive learning processes make children the planners, decision makers, and the sole regulators of their own learning (Flavell, 1976, 1979; Barell, 1991; Wilson & Jan, 1993; Gordon & Braun, 1985;

Nelson, 1992). To empower students to take more control of their own learning, thinking, and management of their life in and out of school, research in metacognition provides many important clues worth working with on many different levels (Barell, 1991).

> Metacognition refers to one's own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data. . . . Metacognition refers among other things, to active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective (Flavell, 1976). (p. 232)

Gordon and Braun (1985) refer to metacognition as an awareness of our own cognitive processes (thinking and learning activities) or knowing about what we know. Barell clarifies metacognition as involving thoughts about the nature of the problematic situation and thoughts about the thinking process itself. He says that another aspect of metacognition that is not often mentioned is knowledge of awareness of and control of the feelings that accompany certain situations. Marzano (1988) identifies metacognition as "declarative knowledge, procedural knowledge, and conditional knowledge" (p. 13). Costa (1989) considers "essence of metacognition" as that, inner dialogue with ourselves, as we are engaged in problem solving.

Reflective learning is an important element in metacognitive processes which ultimately leads to realization of personal

meanings. Wilson and Jan (1993) explain that reflective thinking will improve students metacognitive abilities and make them effective learners. Reflection and metacognition lead to successful or desirable change which will result in excitement, approval, satisfaction, and increased motivation. Reflective thinkers question, self-question, and link ideas to previous, predicted, and current experiences. They examine, clarify, organize, reason, analyze, generalize, hypothesize, predict, assess, and synthesize whatever they come across in their learning tasks. They generate new ideas, find and consider new alternatives, they are adaptable in approach, explore available options, use information about their own thinking and learning to make decisions, select strategies self assess the preferred style, strengths and weaknesses, plan and organize their learning. They use learning logs, concept mapping, questioning, self-questioning, negotiated learning, and self-assessment as some of the strategies to develop their reflective and metacognitive thinking (Wilson & Jan, 1993). Once their learning becomes a self-motivated and self-controlled personal affair then that makes them achieve the realization of personal meanings of what they learn.

If the personal meaning of knowledge is apparent to the learner and explicitly represented in the learner's awareness during or after learning, then it influences certain metacognitive processes such as strategy selection, planning, organization of knowledge, progress monitoring, controlling, and

evaluation (Wong 1989; Barell 1991). Wong investigated the metacognitive processes used by secondary school students in mathematics. He found that most of the students employ metacognitive strategies in problem solving tasks in mathematics. It is true with other domains as well. Some of these metacognitive processes- Strategy selection, planning, progress monitoring, and evaluation- are dealt with in the following sections.

Strategy Selection

Strategy selection in problem solving and learning tasks is a metacognitive process whereby personal meanings of what is learned can be achieved. Students' metacognitive information plays a critical role in their strategy selection and use (Borkowski, 1985; Pressley, Forrest-Pressley, Elliott-Faust, & Miller, 1985). In their model of good information processing, Borkowski, Schneider and Pressley (1989) show the importance of metacognitive knowledge in strategy selection and use. This model is based on a theory of strategy-based instruction advanced by Borkowski, Carr, and Pressley (1987) and Pressley, Borkowski, and Schneider (1987) on the basis of a number of interactive components, such as strategies, specific strategy knowledge, general strategy knowledge, neurological integrity, conceptual knowledge and beliefs, attitudes, and styles. Their view is that the strategy selection decisions are determined by general strategy knowledge, combined with specific strategy knowledge that specifies which strategies are appropriate for various

occasions. They explain that once a selection occurs, general strategy knowledge, and the belief that execution-effort is worthwhile, can motivate the actual carrying out of the activated strategies. They think that, "although these main components of the metacognitive model have been of use in understanding cognitive development and the dynamics of complex thinking, their translation to classroom learning contexts is just beginning to be understood" (p. 170).

The role of metacognitive processes in strategy selection related to learning tasks in different domains has been considered by many educational researchers (Roberts & Erdos, 1993; McGowen, Sutton, & Smith, 1990; Lawton, 1991; Goldman & Saul, 1990; Singer, 1990; Singer, 1991). Ghatala, Levin, Pressley, and Goodwin (1986) citing Ghatala, Levin, Pressley, and Lodico, 1985, and Lodico, Ghatala, Levin, Pressley, and Bell (1983) show that "after giving a general training, even young children (second grade) select and maintain effective strategies, abandon ineffective strategies, and justify their deployment of selected strategies in terms of effectiveness. Both lines of research suggest a causal link between metacognitive knowledge and strategy use" (p. 77). Davidson, Deuser, and Sternberg (1994) see three processes in a strategy selection episode of a problem situation: selective encoding, selective combination, and selective comparison.

Annotation and underlining as metacognitive strategies were studied by Harris (1990), "to compare the annotation method to

underlining to ascertain whether students who read and annotated material were more likely to learn and remember it than were students who read and underlined the same material" (p. 1). In her conclusion Harris says that for short term learning strategy of underlining would appear to be an effective study technique. For retention, it would appear that the annotation method at least for science students, is more effective. She points out that use of writing in connection with reading provides superior retention to the use of reading without any writing. Selection of reading writing connection may be useful as a learning strategy when retention is a specific goal. She further says that there is some value in teaching students new procedures only in those areas in which their study skills seem ineffective. New methods may interfere with students' skills in areas in which they have already mastered an effective method.

Horak (1991) studied student's metacognitive skills during computer enhanced activities using microcomputer simulation and game situations. Some of the metacognitive skills assessed in the study included: planning a course of action, monitoring the outcomes, evaluating data collection strategies thinking about or listing alternative actions, revising strategies, and prioritizing actions. Findings record that subjects vary widely in their ability to choose a course of action, subjects with prior task experience are more capable of monitoring the outcomes of their decisions, subjects found revising strategies to be most difficult, and subjects were not able to prioritize their

actions. When the learners select their own strategies for their learning episodes the whole internal cognitive process is directed towards the realization of that learning as purely a personal experience. This self-directed personal experience turns out to be the realization of personal meanings of their learning. The use of selective meatacognitive processes for learning activities is an individualized cognitive task the outcome of which tends to be successful learning. The attainment of successful learning episodes will result in bringing about personalized meanings for the learner.

Planning

Planning is another metacognitive process that learners resort to in problem solving or learning tasks in the way of achieving personal meanings. Planning involves identification, definition or location of the problem, considering whether the situation can be represented graphically or symbolically, considering whether the problem can be reduced to several parts for easy solution in separate parts, seeing whether the problem is related to any other problems already solved, considering what is necessary for research, selecting a strategy, looking for available resources, deciding on amount of time necessary for solution of the problem and predicting results (Barell, 1991; Baird & White, 1984).

A metacognitive process of planning a learning task to be successful, Lowenthal (1986) suggests four steps: (1) reflect on what is already known; (2) devise a plan for attacking the

problem; (3) monitor the progress; (4) evaluate the outcome of the plan. "Planning can be stimulated through the strategies of emphasizing alternative thinking in early childhood, means-end thinking in the elementary years, and consequential thought in adolescence if the students have the developmental readiness" (Lowenthal, 1986. p. 201). In the planning process when the teacher first plans how to perform a learning task and talks out loud while the children observes, it is possible that children will do similar planning procedures after cognitive modeling the teacher. Through self-instruction the children will do problem definition, focusing attention and response monitoring, self-reinforcement, and self-evaluation and error correction (Lowenthal, 1986). This type of planning for learning in problem solving tasks will help children in effective learning, thus making them achieve personal meanings of their learning experiences.

Cocking (1987) considers five activities as essential features of what constitute the higher-order cognitive skills of planning: defining and setting the bounds on a task, analyzing the requirements and/ or components that comprise the task, establishing a performance protocol, setting the standards and evaluating the quality of the results.

Differences between effective and ineffective high school and college language learners and changes in strategy uses over time were analyzed in a longitudinal study by Chamot, Kupper, & Hernandez (1988). The total study included (a) a descriptive

study which identified learning strategies used in studying foreign languages and (b) a course development study, in which foreign language instructors teach their students to apply learning strategies. The findings to date indicate both effective and ineffective students tend to use similar strategies in language tasks but effective students are likely to use a wider range and a greater number of strategies. Self-monitoring, self-evaluation, selective attention, problem identification, and planning were some of the metacognitive strategies they used. However, the authors point out that qualitative differences were found in the way the effective students and ineffective students used the strategies.

To develop metacognitive skills for planning well organized essays, Barnes and others (1993) describe a lesson in essay planning. They describe instructional components incorporated into the lesson as: gaining attention, informing the learner of the lesson objectives, communicating the function and utility of the strategy, communicating the context in which the strategy will be used, confirming or teaching subordinate skills, describing or demonstrating the planning task strategy and providing varied practice with novel problems, eliciting unprompted performance, providing informative feedback, assessing performance, and enhancing retention and transfer. Learners' varying types of metacognitive skills leading to learning tend to bring about realization of personal meanings.

Planning as a metacognitive process has been considered by educational researchers in their problem solving studies. The use of cognitive and metacognitive behaviors of strategy planning was found to be effective for learning episodes of problem solving in mathematics (Artzt & Armour-Thomas, 1992; Goldman, 1989). More intelligent students perform many learning tasks more rapidly than less intelligent students using such metacognitive processes like local and global planning (Sternberg, 1986). Cocking (1987) assigns cognitive planning to the broader domain of representational thinking and discusses two of the planning components: development of criteria for reflecting on plans and their achievement and evaluation of results of planning efforts, as being involved in metacognitive skills. He thinks that the metacognitive aspects of planning ensures quality of performance. Schmitt (1986) says that metacognitive aspects of reading include knowledge about and regulation of the mental processes involved. The regulation component of metacognitive processes refers to the functions of planning, monitoring, and revising. He emphasizes the need for planning in reading comprehension activities. If reading comprehension is successfully achieved it becomes a learning experience to the reader through which the reader achieves personal meanings. Teaching of a metacognitive skill like planning as an intellectual enrichment strategy is necessary for enhancement of learning achievement (King, 1986). The metacognitive procedure of application of planning to learning tasks is consistently preferred by learners (Gilbert, 1986).

The successful learner uses metacognitive process of planning as a consistent function right through the cognitive process of a learning task. It is a personal and a conscious act which helps the learner for personalization of the knowledge gained from the learning task. Such personalized knowledge consistently renders personal meanings to the learner.

Progress Monitoring

Self-monitoring or progress monitoring is a metacognitive process effective self-regulated learners resort to in their learning tasks (Cates, 1992; Lee, 1991). Rinehart and Platt (1984) in their study on metacognitive awareness and monitoring in adult and college readers found the ability to monitor the strategies used for effective reading as an important metacognitive process which leads to effective learning. In their literature review, they demonstrate how awareness of one's cognitive processes, the orchestration of strategic effort, and the monitoring of one's cognitive tasks can enhance performance in reading. They also point out that sometimes young children and even high school students experience confusion in the reading process and they have trouble monitoring comprehension but the adult and college students usually monitor their reading comprehension. Emerging evidence points to prior knowledge and cognitive and metacognitive processes as critical for the development of skilled reading comprehension. Evidence suggests that instruction on the processes underlying comprehension can improve a reader's comprehension skills (Hall, 1989). Reading is

one important strategy from which learners gather a good part of their learning experiences. Self-monitoring of reading comprehension is a metacognitive process that brings about understanding of what is read and learned which in turn brings about personal meanings to the learner.

Flavell, (1979) quoting research results related to preschool and elementary school children (Flavell, Friedrichs, & Hoyt, 1970; Markman, 1977) says that young children are quite limited in their knowledge and cognition about cognitive phenomena or in their metacognition, and do relatively little monitoring of their own memory, comprehension, and other cognitive enterprises (Brown, 1978; Flavell, 1978; Flavell & Welman, 1977; Kreutzer, Leonard, & Flavell, 1975). In his model of metacognitive monitoring Flavell (1979) says that monitoring of a wide variety of cognitive enterprises occur through the actions of and interactions among four classes of phenomena: (a) metacognitive knowledge (b) metacognitive experiences (c) goals (or tasks) and (d) actions (or strategies). To achieve personal meanings of individuals' learning experiences, it is necessary for individuals that such learning experiences are effectively acquired and understood. Four steps of progress monitoring are stated by Barell (1991) and Baird and White (1984) as necessary metacognitive processes for effective learning experiences to be achieved. They are: considering how well the task is being done, what is being done and why it is being done, what steps already completed and what steps yet to be done, and any obstacles that

are being encountered and possible ways to overcome them. These self-monitoring metacognitive processes make learning tasks meaningful experiences to the learners, and enable them discover personal meanings in their own ways.

In a study carried out with student teachers during their student teaching experience, Pugach (1990) investigated the potential of a self-study project which required use of explicit self-monitoring as a tool for initiating reflection. The student teachers were directed to identify a problem in their teaching practices, develop a means of addressing it, and work on the problem continuously monitoring progress. The study revealed that student teachers' self-monitoring was a critical feature of their reflective teaching. "Such monitoring provides an ongoing catalyst for increased teacher awareness in the midst of the stimulus-loaded classroom environment" (p. 19).

Lee (1991) used utilization and correctness of metacognitive monitoring, as one of the variables to investigate metacognitive and cognitive effects of different loci of instructional control. "The overall performance of the students under learner control was significantly better than that under program control in the assessments of two aspects of metacognitive effects: utilization and correctness of metacognitive monitoring" (p. 9).
Self-monitoring as a consistent process in the total problem solving or learning episode makes learners continuously conscious of the metacognitive learning processes that occur in their minds

until they achieve understanding and fulfilment of their learning and personal meanings.

Evaluation

Self-evaluation as a metacognitive process facilitates effective learning (Lowenthal, 1986; Schunk, 1982; McLain & Mayer 1991). It involves self-examining whether the task has been completed, how well the task has been completed and whether it has been done as predicted, what has been learned by doing the task in the way it has been done, might it have been done differently, whether the task could be done in the same way again and why would it be done that way, what the result has meant, in what way the new knowledge can be used again and to what this knowledge has been related (Barell, 1991; Baird & White, 1984). De Klerk (1987) believes that for learners to become active participants of learning, they have to learn to set goals, to plan, and to see whether the goals are being reached. Self-evaluation procedures need to be used to see whether the learning objectives have been reached. Klerk says that for evaluation of what they learned they need to ask themselves such questions as: whether they understand what was learned, whether they can give good examples of what was learned, what else do they need to know, whether the strategy used is working for the problem and the like. He points out that emphasis on such metacognitive activities will lead to improvement of learning from instruction. Harris (1985) explains that these changes can be evaluated through numerous procedures like thought listing, and other

self-report techniques. Through different self-evaluating measures the learners stabilze and internalize their learning. Such learnings turn out to be personal experiences for the achievement of personal meanings.

Self-evaluation helps a person to self-examine the nature of learning that the person has attained. Guided self evaluation experiences can be introduced through individual conferences and self-checklists focusing on thinking processes (Blakey & Spence (1990). Self-evaluation is applied in learners' learning tasks more independently than the teacher initiated evaluation processes. Self-evaluation ensures and makes learners confident that they have actually understood and effectively learned what was meant to be learned. The metacognitive processes of evaluation ensures that learners actually achieve personal meanings consequent to their personalized learning experiences.

Metacognitive elements of personal meaning

There appears to be a lack of research literature in direct relation to the specific area under review. However quite a rich literature is available in which much references are made to the areas of personal meaning as well as metacognitive processes. These two concepts seem to interact with each other in varying degrees and also they appear to be very much inter-related.

Personal meanings that an individual achieves are the reflections of learning experiences that go into the individual's consciousness. However the reflections of learning in human consciousness are not photographic reproductions of reality

(Leont'ev (1990). Reflections of reality--events, objects, people, and phenomena--create images in a person's mind (Rubinshtein, 1957). The reflections of not only phenomena or objective relations themselves but also of their meaning for persons and their relations to their needs is necessarily present in a mental image (Rubishtein, 1959; Leont'ev, 1977; Vilyunas, 1983; Leont'ev, 1990). Personal meaning is also a component of individual consciousness in which the person's partiality caused by the person's needs, motivations, and attitudes towards reality of life in the world, is expressed (Leont'ev, 1977).

According to Combs & Snygg (1959), any information will affect persons' behavior only in the degree to which a they have discovered its personal meanings. Combs (1989) explains that personal meanings help us understand the world in which we live. Quoting Jourard (1969) and Klein (1970), he explains that the behaviors we observe in ourselves and others at any moment are symptoms of what is going on inside people. They are the outer manifestations of personal meanings or perceptions. The most crucial aspects of learning have to do with the deeper discovery of the personal meaning of what people already know. (Combs, 1989). Barell defines personal meanings "as those concepts, ideas, facts,and feelings that directly relate to our sense of self and to our general attitudes, dispositions and habits of mind" (p. 231).

Gilbert's (1986) study on inducement of metacognitive strategies for map learning task knowledge, instructions, and

training, aimed to examine "(a) which of the many types of available cognitive strategies are the best determinants of success on the map learning task and (b) what level of instructional intervention is necessary to get learners to effectively utilize those strategies" (p. 5). Further, he has established eight a priori hypotheses based on his review of literature. The results indicate that those learners who were given training in the use of metacognitive strategies performed nearly twice as well as their counterparts in the other (non-trained) groups. Those metacognitive procedures involving the application of planning, monitoring and evaluation behaviors were consistently preferred by the more successful learners. The study reveals that successful map learning depends on the application of metacognitive strategies and also the less successful learners can be trained to use these successful strategies even though they had initial capacity limitations. Successful learning was achieved by learners who followed learning strategies related to metacognitive processes. The successful learning experiences that the metacognitive learners acquired tend to be their personal meanings.

Combs (1989) citing Powers (1973) explains that according to perceptual theory, the behavior of a person at any moment is the product of her or his perceptual or experiential field at that instant. He further explains citing Laszlo (1972), Lewin (1943), and Frank (1939) that the perceptual field includes all those personal meanings existing for a person at the moment of his or

her behavior. The perceptual field at any moment is composed of thousands, perhaps millions of perceptions or personal meanings at varying levels of clarity and with more or less stability and importance in the behavior economy.

Althoguh acquisition of new information or experience is basically a cognitive process, the learning leading to a personalized experience and personal meaning is effectively acquired by means of metacognitive elements. The individual's personal discovery of meanings of the experience attained is more an affective learning process. The bridging of cognitive and affective learning occurs when the learner discovers personal meanings associated with the information or experience acquired (Combs 1989).

Hills (1987) explains that discovery of personal meaning consists of understanding the relationships of events to the self, judging that this relationship is relevant to a perceived personal need or is consistent with a belief and becoming aware of the feelings associated with the events. Combs say the same thing in different words, when he stated, "any information will affect a person's behavior only in the degree to which he has discovered its personal meanings for him (Combs, Avila & Purkey, 1978 p.56). Discovery of personal meaning rests with the individual learner (Hills, 1987). Hills in her paper on the Discovery of personal meaning: A goal for counselor training, stresses the importance of learning processes to create an atmosphere and provide an exposure to the skills in such a way

that each learner is encouraged to discover personal meanings. This method of learning relationship skills has termed the integrative approach. This integrative approach is designed to encourage learners to discover personal meanings. Hills developed eight principles for the integrative approach mostly involving metacognitive learning strategies. Hills says that in actual practice these principles are combined so that any one element of training simultaneously reflects many of the principles.

Chandler and Shoup (1991) studied what strategies college students use to retain material that is low in meaningfulness, what determines whether students will spontaneously employ internal control in providing meaningfulness, and whether meaningfulness is related to attributional assignment, divergent thinking, or both. Attributions significantly predicted fluency, flexibility, and originality scores as a function of the meaningfulness of the list. Authors admit methodological limitations of the study. As implications of the study, Chandler and Shoup say that the students can be encouraged to bring personal meaning to tasks low in meaning to increase retention. Obviously this study was not aimed at studying issues related to normal learning experiences of students but it shows how metacognitive strategies can be used to discover personal meanings.

Moon, Niemeyer, and Karls (1989) studied the process by which student teachers in field experience programs transform

present experience into personal knowledge through experiential learning. The paper is guided by the contemporary understandings about languaging which include the four basic language skills, reading, writing, speaking, and listening and the transformation of experience into new learning as personal meanings. They have looked specifically at how a student teacher's written language may differ at various developmental levels of becoming a professional teacher and what patterns of language promote or facilitate transformation at different levels. The three considerations presented as paper's construct are: the traditional learning model accepted in many programs as appropriate for student teaching, the process of learning from experience, and languaging as a strategy for transforming experience to personal knowledge.

Carr, Borkowski, and Maxwell (1991) compared and predicted academic performance in achieving and underachieving students on the basis of motivational, affective, and metacognitive processes. They found that the achievers associated their existing knowledge and skills with positive attributional beliefs about the importance of effort in determining higher level of performance. This reveals the importance of an enriched functional metacognitive system with positive attributional beliefs for higher academic learning and achieve personal meanings. The failure of underachievers to develop an enriched functional metacognitive system was ascribed to their negative attributional beliefs. Corno (1986) while describing the role of

metacognitive control activity in self-regulated learning, discusses selected evidence that metacomponents are key subprocesses and that metacognitive components are necessary for achieving succesfull learning experiences. Though there is no direct refernce made to personal meaning as a metacognitive process, sufficient evidence is found in research literature to establish the connection between personal meaning and metacognitive elements.

Implications

Research literature reviewed in this paper reveals a number of important implications for education. One of the areas of utmost importance to teachers and those who are involved in helping professions is to create an environment or provide necessary orientation for learners to realize the need and their responsibility for whatever learning that they do. The need must be felt by the learners in their affective domain in spheres related to their emotions, feelings, tastes, habits, attitudes, values, and aspirations.

Goals of learning must be extended to include growth or change in student feelings, attitudes, beliefs, understanding values, hopes and aspirations and also these goals must be made known to teachers, students, and parents.

It would be of much consequence that planners of children's education make an emphasis for education to be more of an affective endeavor. Personal meaning is attained through learning, and emotion is an indicator of that meaning. It follows

that learning is a personal, emotional as well as a cognitive one. The greater the degree of affect it is more likely that learning is important to the learner and it will affect his behavior. If education is not affective then very little of any consequence has occurred. Affective learning becomes still more effective when it is acquired by means of metacognitive processes of learning.

"The self concept is equally important in its implications for learning" (Combs, 1982. p. 61) for discovery of personal meaning. The acquired learning experiences and achieved personal meanings affect persons' self-concepts (Combs & Gonsalez, 1994). Learning activities bringing about learning experiences and enhancing discovery of personal meanings need to be carefully selected in a way that they develop self-concepts of learners in a positive manner. Reflective learning and learning through self-regulatory srtrategies are useful for successful learning. Encouraging students to follow these metacognitive learning strategies would be necessary so that they would feel the responsibility for their own learning, and also they would feel that they are their own decision makers, and managers of their own learning. Metacognitive processes of learning bring about self-confidence, self-reliance, and feeling of identification as self-learners. The skills in the use of metacognitive processes such as strategy selection, planning, self-monitoring, self-controlling, organization, and self-evaluation need to be

introduced to the children by means of learning and teaching strategies.

Gilbert (1986) says that "schools and training programs are overemphasizing content skills to the exclusion of general thinking skills" (p.30). An important implication for teacher education programs and teachers' professionsl training programs would be to concentrate on training teachers to teach general metacognitive skills which have broad applicability to a wide range of learning tasks. The orientation of metacognitive strategies to learners can be done in numerous ways. Six approaches that can be used singly or together to teach children good strategy use are: (a) discovery learning, (b) observational learning: Watching strategy use and reading about others using strategies, (c) guided participation in frequently encountered normal school tasks, (d) strategy instruction through books and courses, (e) direct explanation: strategy instruction that is largely teacher directed, and (f) dyadic instruction (Pressley, Snyder, & Cariglia-Bull, 1987). The practice of "teaching for thoughtfulnesss to enhance intellectual development" (Barell, 1991) is necessary. Wong (1989) emphasizes that teachers need to consider incorporating strategies to help students develop metacognitive skills in problem solving. An implication for education is that the teachers need to make a conscientious and direct effort in introducing metacognitive strategies of domain-based problem solving during their lessons. As personal meanings are achieved by means of learning experiences acquired in the

three domains of cognitive, psychomotor, and affective in the course of their learning tasks, the teachers--as practioners of education--need to be innovative in their planning and implementation of instructional strategies for children's metacognitive learning. Innovative ways of instructional guidance and facilitation of learning in both school and home environments are a timely need.

Suggestions for further research.

Combs in a number of his studies shows the close relations of the affective domain, learning, and personal meanings. Affective factors responsible for acquisition of experiential learning such as, self-concept, challenge or threat, attitudes, emotions, values, and aspirations are areas which can be studied in relation to different metacognitive processes as conveyances of personal meanings. There is a dearth of research in vagaries of personal meanings related to aspects and intricacies of learning experiences brought about by means of metacognitive processes. There is immense scope for research in these two inter-related areas: metacognition and personal meanings. Further research is also necessary in areas of cognitive learning strategies and areas of metacognitive processes as related to personal meaning. Lee (1991) suggests that further research efforts should be devoted to the development of instructional models of learner control which will be beneficial in enhancing both metacognitive and cognitive skills and knowledge. Effective

methods of skill development in learners for good strategy use also appears an important area for further research.

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